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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,317	01/16/2002	Hieronymus Andriessen	27500-72	6212
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Joseph T. Guy Ph.D. Nexsen Pruet Jacobs & Pollard LLP 201 W. McBee Avenue Greenville, SC 29603				
EXAMINER KOSLOW, CAROL M				
ART UNIT PAPER NUMBER				
1755				

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,317

Applicant(s)

ANDRIESSEN, HIERONYMUS

Examiner

C. Melissa Koslow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003 and 21 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 22-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 and 9-15 is/are allowed.
- 6) ☒ Claim(s) 7, 16-20 and 22-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1 December 2003 and 21 January 2004 has been entered.

Applicant's arguments and declaration have been fully considered but they are not persuasive.

Section 6 of the declaration states that different precipitation techniques produce ZnS:Cu particles with vastly different photo- and electroluminescent properties. This conclusion raises a question as to whether the specification is actually enabling for any other precipitation method besides the double jet method. Applicant is required to provide the actual tests discussed in section 5i and the results discussed in section 6 in the declaration so it can be determined if the specification is enabling.

Claims 7 and 16-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7 and 16 are duplicates of each other. Claims 17, 18, 22 and 23 are duplicates of each other. Claims 19 and 24 are duplicates of each other. Claims 20 and 25 are duplicates of each other. Claims 26 and 28 are duplicates of each other. Claims 27 and 29 are duplicates of each other. The double jet method of precipitating does not distinguish the particles of claims 16 from those of claim 7, the particles of claim 24 from those of claim 19 and the particles of claim

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25 from those of claim 20. The double jet method of precipitating and the method of forming the citrate or EDTA complex of Cu(I) does not distinguish the particles of claims 17 from those of claims 18, 22 and 23, the particles of claims 28 from claim 26 and the particles of claim 29 from those of claim 27. Applicant is advised that should claims 7, 17, 19, 20, 26 and 27 be found allowable, claims 16, 18, 22-25, 28 and 29 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

The declaration under 37 CFR 1.132 filed 1 December 2003 is insufficient to overcome the rejection of claims based upon 35 USC 112 as being duplicate claims as set forth in the last Office action because it does not show the method of forming the citrate or EDTA complex of Cu(I) distinguish the ZnS:Cu particles in claims 18, 22, 23, 28 and 29 from those of 17, 26 and 27. It is silent as to whether different sources of Cu(I) ion produce different products.

The declaration makes the statement that different precipitation techniques produces ZnS:Cu particles with vastly different photo- and electroluminescent properties, but the techniques used besides the double jet method is not disclosed nor are the actual results are given. This statement in the declaration contradicts what is taught in the specification in the linking paragraph of pages 4 and 5. This paragraph teaches any precipitation method can be used and that the double jet is preferred. Without any disclosure of the other methods tested and the actual results, this conclusion of the declaration is given little weight.

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Applicant's representative states the declaration discloses ZnS:Cu,Mn particles. Nowhere in the declaration are such particles discussed. Thus the arguments addressing ZnS:Cu,Mn particles have been given no weight since they mischaracterize what is taught in the declaration.

While the declaration does show that the ion state of the copper source affects the properties of the resulting ZnS:Cu particles, the copper source in claims 17, 18, 22 and 23 all have the same ion state, the +1 state. This does not show that the particles in claims 17, 18, 22 and 23 are distinct from each other.

Applicants have not shown that the double jet method of precipitating and the method of forming the citrate or EDTA complex of Cu(I) distinguish the ZnS:Cu particles in claims 16, 18, 22-25, 28 and 29 from those of 7, 17, 19, 20, 26 and 27. The rejection is maintained.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 7 and 16-29 rejected under 35 U.S.C. 103(a) as being unpatentable over Grey et al in view of Fischer.

Grey et al teach ZnS:Cu particles produced by co-precipitation and which can be coated by an anti-agglomeration compound. These particles are used in electroluminescent displays. Fischer shows these displays have the same structure as the claimed thin film inorganic light emitting diode devices. Thus the references suggest thin film inorganic light emitting diode devices comprising a coated layer comprising ZnS:Cu particles produced by co-precipitation and which can be coated by an anti-agglomeration compound. The particles of Grey et al appear to be identical to the ZnS:Cu particles of claims 7 and 16-29, which are product-by-process claims. Even though product-by-process claims are limited by and defined by the process, determination

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of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The references suggest the claimed devices.

The fact Grey et al only exemplified producing ZnS:Mn does not mean the patent is enabling only from that compound. A reference is not limited to working examples. *In re Fracalossi* 215 USPQ 569 (CCPA 1982). The fact the reference only studied the photoluminescent properties of ZnS:Mn particles of the examples does not mean all the composition disclosed in column 5, lines 25-36 are only photoluminescent. Lines 26 and 31 in column 31 clearly teach ZnS:Cu particles can be produced by the disclosed process and ZnS:Cu are notoriously well known electroluminescent phosphors as shown by the teaching in column 1, lines 7-15 of Fischer which states that in 1936 a luminous capacitor, the first known electroluminescent device, used ZnS:Cu particle as the electroluminescent phosphor. Thus ZnS:Cu was known since 1936 to be electroluminescent. There has been no showing that the ZnS:Cu particles taught in Grey et al are different from those claimed and thus that the suggested EL device is different from that claimed.

Applicant's comments with respect to ZnS:Mn and ZnS:Cu,Cl and the showing in the declaration with respect to the properties of ZnS:Mn are all noted, but they are immaterial and irrelevant to the rejection at hand and to what is being claimed. The claims only teach ZnS:Cu particles, not ZnS:Cu,Cl or ZnS:Mn particles. None of these comments and showings prove that

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the ZnS:Cu particles taught in Grey et al are different from those claimed nor that the suggested EL displays are different from those claimed.

Applicant's comments with respect to the photoluminescent properties of the control examples are noted on page 16, but these control examples are not produced by the process of Grey et al. Thus they do not show the ZnS:Cu particles taught in Grey et al are different from those claimed or that the suggested EL displays are different from those claimed.

Applicant's comments with respect to Fischer are noted. Applicants' argue that the teachings in column 12, lines 20-43 teach away from the use of ZnS:Cu phosphors in electroluminescent devices. This section discusses the problems with white emitting ZnS phosphors in electroluminescent devices. This section does not teach away from using ZnS:Cu, a blue emitting phosphor, in electroluminescent devices. Column 1, lines 5-45 teaches ZnS:Cu has been used in EL devices and column 12, lines 6 teaches blue emitting EL displays were known. Thus the reference does not teach away from the use of ZnS:Cu in EL devices. Fischer was cited showing that the EL displays of Grey et al have the claimed structure. Applicant has not presented any evidence that the displays of Grey et al do not have the structure of the displays taught in column 1, lines 5-45 in Fischer. The rejection is maintained.

Claims 1-6 and 8-15 are allowable for the reasons given in the previous action.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114.

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See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at (571) 272-1362.

The fax number for all official communications is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
March 15, 2004


C. Melissa Koslow
Primary Examiner
Tech. Center 1700